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Town Manager's Office

INTERDEPARTMENTAL COMMUNICATION

To: Board of Selectmen

Date: May 2, 2003

From: Town Manager's Office

Subject: Franklin Place 40B – 520 Main Street Staff Comments

Attached to this memo please find the **DRAFT** Staff comments on 520 Main Street for Board review.

Please note that the Recreation Commission is an Advisory Board to the Board of Selectmen and we would appreciate your direction on whether or not you want direct submission to the ZBA or do you want to coordinate them into your comments.

ACTON NATURAL RESOURCES DEPARTMENT

INTERDEPARTMENTAL COMMUNICATION

To: Board of Selectmen **Date:** May 1, 2003
From: Tom Tidman, Director 
Subject: Franklin Place

The Acton Conservation Commission will open the hearing for a Notice of Intent filed in association with the development of 520 Main Street, Acton on May 7, 2003. The Commission's review to date has included several site walks to verify the location of the wetlands boundary. Overall, the Commission is in agreement with the wetlands boundary location, with the exception of a couple of points that may be slightly modified. As the Selectmen are aware, the Conservation Commission will open this hearing under the Massachusetts Wetlands Protection Act only and not under the Bylaw. Additional questions and concerns may arise related to local jurisdiction. These comments and concerns will be forwarded to both the Board of Selectmen and ultimately the Zoning Board of Appeals for consideration.

Two items of concern that came to light during the initial review were:

- 1) Whether or not the stream located on the property exhibits perennial or intermittent characteristics.
- 2) The Commission is very concerned with the location of the leaching field and its nearness to wetlands and ultimately the Conant Well Field. The Commission will support any additional treatment that the Board of Health deems necessary to ensure nutrient removal prior to effluent entering the leaching field. I would estimate that our additional comments and concerns will be in written form from the Commission within the next two weeks.

Roland Bartl

From: Roland Bartl
Sent: Friday, May 02, 2003 12:02 PM
To: Don Johnson
Cc: Christine Joyce
Subject: RE: 520 Main Street

Attached is Planning's latest draft letter to the BoA about the proposed Comp. Permit project at 520 Main Street. This draft is now in the hands of the Planning Board, who will hold a meeting on the subject on Tuesday, May 6 to discuss the matter. Ultimately, Planning comments will come from the Planning Board, rather than Planning staff. Therefore, changes to the draft letter may be possible, although initial feedback from individual Board members indicates general agreement with the draft's contents.

*Roland Bartl, AICP
Town Planner, Town of Acton
472 Main Street
Acton, MA 01720
978-264-9636*

-----Original Message-----

From: John Murray
Sent: Thursday, May 01, 2003 10:15 AM
To: All Department Heads
Subject: 520 Main Street
Importance: High

Please insure that Christine has a copy of your "current revised" comments regarding this project for tomorrow's BOS packet. Also please indicate, whether these comments have been "approved" by your Board or Committee, your chairperson, subject to future vote, or other. If your Board or Committee comments are not available in draft or final form and are in process (i.e. Tom's) please draft a memo indicating the process and when you believe comments will be available.

If subsequent comments are generated after this date please provide a copy to the BOS.

John Murray



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TOWN OF ACTON
472 Main Street
Acton, Massachusetts 01720
Telephone (978) 264-9636
Fax (978) 264-9630

Planning Department

INTERDEPARTMENTAL COMMUNICATION

To: Board of Appeals **Date:** May 2, 2003
From: Planning
Subject: Hearing # 03-08 – Franklin Place LLC, Comprehensive Permit Application
520 Main Street

Planning has reviewed the application for Franklin Place and wishes to submit the following comments for the hearing on May 8, 2003:

1. Lack of Consistency with Master Plan

Consistency with the Town's planning goals and objectives is a criterion for evaluation of comprehensive permit applications under M.G.L. Ch.40B, S.20-23 and 760 CMR 31.00. Specifically, under 760 CMR 31.07(3)(d), the Housing Appeals Committee (and by inference the ZBA) "may receive evidence of and shall consider the following matters: (1) a city or town's master plan, comprehensive plan, or community development plan, and (2) the results of the city or town's efforts to implement such plans." Therefore, it seems appropriate to mention this subject in light of Acton's Master Plan and the history of affordable housing development efforts and successes in Acton:

The 1990 Master Plan established two planning principles for the Town that are relevant in the evaluation of this pending proposal.

- a. The declaration that affordable housing generation is a critical planning objective to meet the housing needs of Acton's low and moderate income population, and
- b. The designation of mixed-use growth centers for future concentrated development as a measure against further suburban sprawl and traffic congestion in Acton¹.

Consistent with these principles, Acton adopted zoning in 1990 that designated five growth centers (East -, North -, South -, and West Acton Villages, and Kelley's Corner) and an Affordable Housing Sub-district B. It allows high-density housing developments (up to 5

¹ The concept of designating growth centers while discouraging growth in areas that are distant from these centers is consistent with the MAPC region's MetroPlan 2000 first published in the late 1980's. Today, this approach to growth management has become an integral part of the "smart growth" principles. In a January 13, 2003 memorandum, DHCD stated that recent changes to 760 CMR 31.00 ff (regulations relative to the Housing Appeals Committee and the Local Initiative Program) will, among other things, "ensure that proposed developments are appropriate to the site, are consistent with 'smart growth' principles, will increase other project standards, and will eliminate Chapter 40B problems which have been documented with respect to such developments."

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units/acre) within walking distance of the designated centers as well as other established retail and service areas². These principles received affirmation in the 1998 Master Plan update.

Over the years, Acton has supported two high-density comprehensive permit projects that fit the stated planning principles: Westside Village³ off Sudbury Road adjacent to the Powder Mill Road commercial area and most recently Crossroads Condominium⁴ just south of Kelley's Corner. A third high-density affordable housing project, Harris Street Place⁵, went up at Harris Street near Great Road under local affordable housing regulations. All three developments are located wholly or partially within the Town's designated Affordable Housing Overlay District B, which makes them consistent with the Town's stated "smart growth" planning principles. In addition, the Planning Board and the Acton Community Housing Corporation successfully negotiated the creation of numerous affordable Local Initiative Program units on scattered sites as contributions from large residential projects or in developments within Acton's low-density Affordable Housing Overlay District A⁶. Most of these scattered sites reused existing housing stock.

Looking ahead:

- The Town is working to rehabilitate and convert the old Towne School building for affordable housing. Its location abutting the Kelley's Corner business district (a designated growth center under the Acton Master Plan) fits the criteria for inclusion in the Affordable Housing Overlay District B. 18-20 units appear feasible.
- A local private developer has prepared plans and made preliminary contact with Town staff and the ACHC regarding a comprehensive permit on property (behind Acton Toyota) near East Acton Village, which is another designated growth center. The property is in the Affordable Housing Overlay District B.
- On April 29, 2003, the Town finally received the green light from DHCD to proceed with the affordable housing plan⁷. This project was originally scheduled to begin in February with a projected completion date in December 31, 2003.

² The Town also adopted an Affordable Housing Sub-district A for many other areas. It provides a moderate density bonus over base zoning for the inclusion of a small number of affordable units. Any density increases from that would be insignificant.

The subject site is included in Sub-district A. It is too small on its own to be eligible for the affordable housing bonus option without combining it with the Horton parcel to the north, which is also in Sub-district A. If it were eligible by itself, the bonus option may yield 9-10 units including one or two affordable unit at an overall density of +/-2 units/acre. This takes into consideration site constraints and the need to build a subdivision street. The proposed density of Franklin Place is over 6.5 units/acre.

³ On Westside Drive. Approved on 9/1/98. 16 single-family units, four affordable, on 5.25 acres. Base zoning was General Industrial, now Powder Mill. Affordable Housing Overlay District B applies.

⁴ At 248 Main Street. Approved on 11/19/02. 12 townhouse units, 3 affordable, on 2.23 acres. Base zoning is Residence 2. Affordable Housing Overlay District B applies to the northern half of the property.

⁵ Jennifer Path & Samantha Way. Approved on 1/11/99 as a Major Affordable Housing Development under section 4.4 of the Acton Zoning Bylaw, with the benefit of a variance from the Board of Appeals. 16 single-family units, four affordable, on 3.3 acres. Base zoning is Residence 10/8. Affordable Housing Overlay District B applies.

⁶ Acorn Park PUD, 1993 – 2 scattered off-site affordable units;
New View PCRC, 1994 – 1 new on-site affordable unit plus \$100,000 to Town affordable housing fund;
Bellows Farm PCRC, 1995 – 6 scattered off-site affordable units;
Dunham Lane OSD, 2001 – 1 rehabbed on-site affordable unit;
Robbins Mill PCRC, 2002 – 2 scattered off-site affordable units;
Colonial Acres IV PCRC, 2002 - \$300,000 affordable housing contribution to Acton Housing Authority.

⁷ Under Executive Order 418, each community is eligible for up to \$30,000 in community planning funds.

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Because of the efforts to date, Acton has managed to maintain its percentage of affordable housing stock during the past decade while staying true to its planning goals. This was not a small feat in the face of a decade of rapid development of market rate housing. Franklin Place, in the right location near a village or commercial center could be a great asset. In the proposed location and density, it is entirely inconsistent with Acton's Master Plan and it violates "smart growth" principles. The adjacent industrial uses do not offer any conveniences, retail or otherwise⁸, to which nearby residents could walk. The choice of this site for a comprehensive permit project negates a decade of careful work and nurturing, by which the Town managed to achieve some level of acceptance and support for affordable housing as a valid community planning objective. Pursuit of this particular project threatens this consensus. In most other Massachusetts communities, affordable housing developments are contentious and vehemently opposed by abutters, and affordable housing advocates are pitted against community preservationists. It would be unfortunate if Acton were destined to join their ranks because of inferior projects. Contentious 40B development projects could have a long-term adverse effect on the success rate of affordable housing in Acton. Acton has better project alternatives on the near horizon that are consistent with local planning goals. The upcoming affordable housing plan will set forth additional and effective means of generating affordable housing consistent with Acton's Master Plan.

2. **Purchase Price of Land May Exceed MassHousing Policy**

The application contains a purchase and sale agreement between the applicant and the landowner (Balduf). It identifies a 40- to 48-unit project and tags the purchase price on the number of units approved under a comprehensive permit - \$40,000 per unit up to 40 units plus \$18,750 for each of possibly eight more units up to a total of 48 units. The agreement sets forth a minimum price of \$1.05 million for seven standard building lots in the event that a comprehensive permit application fails the Town's muster. There are further contingencies should the 7-lot subdivision fail as well.

MassHousing in its 11/8/02 conditional eligibility letter states that the developer must comply with MassHousing's Acquisition Value Policy. It states in part that "economic benefits of the comprehensive permit shall accrue to the development and shall not be used to substantiate an acquisition cost that is unreasonably greater than the current appraised fair market value under existing zoning without a comprehensive permit in place." This is a common-sense requirement. The purpose of Chapter 40B is not to yield extra developer or landowner profits, but merely to subsidize the creation of affordable housing.

The purchase and sale agreement offers the seller an inappropriate comprehensive permit premium. As the project is now proposed (32 units), the purchase price according to the P&S agreement would be \$1.28 million rather than the \$1.05 million based on standard zoning. The comprehensive permit premium amounts to \$230,000 or \$7,187.50 per unit. This premium should be eliminated. The benefit should accrue to the development in the form of fewer overall dwelling units, a greater percentage of affordable units, lower-priced affordable units, or a combination of these.

The 7-lot standard plan assumption appears reasonable. Nevertheless, the Board of Appeals should request a copy of the 7-lot preliminary plan for its own evaluation. Given the numbers in the purchase and sale agreement, the applicant undoubtedly has one available. In addition, the Board of Appeals should ask the applicant for funds to conduct its own independent appraisal and peer review of the applicant's *pro forma*.

⁸ With the exception of the U.S. Post Office ½ mile across Main Street at 7 Post Office Square.

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3. Project Contingencies

The pro forma carries \$465,700 for contingencies, which become extra profit in the absence of any unforeseen emergencies. The Board of Appeals should require that unused contingencies go towards further affordable unit subsidies, additional affordable units, or both, and the Board of Appeals should hold the contingency funds in escrow to better control their use for true emergencies.

4. Unit Types

The Building Tabulation Plan in the application suggests that all units will have two bedrooms. 14 of the 32 units come with lofts that can serve as third bedrooms with little or no modification. How the additional 14 bedrooms may affect the sewage flow and the adequacy of the proposed septic system is a local concern about which the Board of Health can advise the Board of Appeals. The units with lofts or third bedrooms may also attract larger households. Three to four of the 14 loft units should be in the affordable unit category.

5. Affordable Units

The Board of Appeals should designate which units will be the affordable units, and should condition a development schedule that spells out the phasing by which affordable units must be completed in relation to market-rate units.

6. Units for Persons with Disabilities

The Board of Appeals may require that some units, including affordable units, be made accessible for persons with disabilities. If the Acton Commission on Disabilities has not yet been notified of this proposal, it should be contacted and consulted to help determine the specific needs for such units in Acton. The Board of Appeals should require that persons with disabilities get priority access in the lottery for handicapped accessible affordable units.

7. Market Study

Previous comprehensive permit applications have included a market study by a qualified real estate professional or appraiser to document that there is sufficient demand for the proposed market-rate units at the asking price. To the extent that the future is predictable, this will help ensure that the sales of the market rate units can in fact subsidize the proposed affordable units. On the other hand, it can also confirm the expected income from the sale of market rate units, ensuring that the *pro forma* does not understate such returns and in doing so hide additional profits. The Board of Appeals should request such a study from the applicant in this case.

8. Grants or Loans

Will there be any grants or loans from public or quasi-public State or Federal agencies for this project that constitute a subsidy?

9. Children

The plan shows no accommodations for children. It is not only lacking formal play space, but the layout of the site and buildings (parking and driveways in the front, steep embankments around the back) provides no informal play space either. Based on similar developments in Acton, the expected number of school-age children in this development is 10-12 at any given time with additional children below school age. Their needs have been ignored. There are no nearby public play areas with easy and safe access that they could fall back on. Under 760 CMR 31.07(3)(b)(6), "[a]dequacy of open areas, including outdoor recreational areas proposed

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within the building site” are important features of the Site and Building Design about which the Board can hear evidence and impose conditions.

10. Septic System

The system as shown is sized for a sewage flow of 7040 gallons per day (gpd) for 64 bedrooms based on the 110 gpd per bedroom standard in Title V. The 14 lofts as bedrooms could add another 1540 gpd bringing the total to 8580 gpd. Either volume would result in a significant nitrate concentration that sends a troublesome plume into the adjacent wetland and nearby Conant Brook, which feeds the Town’s Conant Wells $\frac{3}{4}$ mile downstream. The project proponent should consider, and the Board of Appeals should consider a condition requiring a low-cost nitrate removal system such as BoiClere. This could be another destination of project contingency funds.

11. Traffic

The anticipated traffic generation from the project is 212 trip ends per weekday, 18 in the morning peak hour, 21 in the evening peak hour, and 17 during the Saturday peak hour (ITE Trip Generation Manual, 6th Edition, Land Use 220 – Apartment). These figures are below the traffic study threshold of Acton’s special permit and subdivision rules.

12. Non-residential Buildings and Vehicle Parking

The application does not include architectural plans for the garages and the small building in the center-island. The purpose of the latter is unclear. It is also unclear exactly how many vehicles will fit in the proposed garages. Long rows of garages have a tendency to appear unsightly. Eliminating garage #2 would open the center courtyard to all buildings, which would be an aesthetic improvement, facilitate the supervision of children’s play, and improve general security on site. The total number of parking spaces including garages should be two per unit plus a small allowance for guest parking.

13. Certifications

The architectural drawings lack the architect’s stamp or seal, and signature. The Housing Appeals Committee’s regulations at 760 CMR 31.02(2)(a) provide that “All structures of five or more units must have site development plans signed by a registered architect” to proceed to a hearing before the HAC. The Board should require the same level of professional certification.

14. Missing Information

The application more or less ignores sections VI.E.5.d.vi., vii., viii., ix., and x. of the Board of Appeals’ rules for comprehensive permits. The Board of Appeals should require that the applicant comply with these provisions.

15. Bond

The Board of Appeals should consider a bond or other form of performance guarantee to secure the basic infrastructure on the site thereby protecting future homeowners from the unlikely but possible scenario of the developer defaulting on the project part way after some residents have already moved in. See Zoning Board of Appeals of Wellesley, et al. v. Ardmore Apartments Limited Partnership, 436 Mass. 811, 767 N.E.2d 584 (2002) (40B project involving bankruptcy and foreclosure sale).

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16. Zoning Bylaw Compliance Issues

- a. Zoning, in section 4.3.6.2, requires that post-development groundwater recharge on the site is not less than under pre-development conditions. The proposed drainage system suggests that the design might meet this requirement, and the application does not list this section under requested zoning waivers. The Board of Appeals should require the applicant to provide recharge calculations to prove compliance.
- b. Zoning, in section 6.3, requires a certain number of parking spaces. The application does not ask for a waiver, which suggests intent to comply. Yet, I could not find documentation of compliance. The Board of Appeals should require the applicant to provide parking calculations to prove compliance.
- c. Zoning, in sections 6.5 and 6.6, requires certain dimensions for parking spaces. The application does not ask for a waiver, which suggests intent to comply. Yet, I could not find documentation of compliance. The Board of Appeals should require the applicant to provide parking space dimensions to prove compliance.
- d. The applicant is requesting waivers from section 6.7, parking lot design requirements, to allow the parking layout as shown on the site plan. Under 760 CMR 31.07(3)(a)(5) and (b)(5), "[a]dequacy of parking arrangements" and "[a]dequacy of the applicant's proposed arrangements for dealing with the traffic circulation within the site" are appropriate topics for evaluation. I will not comment on the details of it except to note that
 - the driveway and maneuvering aisle widths appear to meet zoning requirements;
 - the driveway layout appears to accommodate fire engines, school buses, etc;
 - a landscape plan would assist in evaluating the proposed alternatives;
 - the parking rows in front of the buildings are reminiscent of a motel, and the Board of Appeals should consider conditioning an alternative design.
- e. Zoning, in section 3, requires a site plan special permit for multi-family dwellings, and section 10.4 sets forth site plan design standard. The application is silent on this matter. No waivers are requested, yet no site plan special permit application is on record nor is there an itemization of waivers from site plan standards. The application lacks information to discern compliance: no storm water calculations, no outdoor lighting plan or details, and no landscaping plan. Sidewalks appear adequate. The Board of Appeals should require the submission of and should evaluate the adequacy of storm water calculations, an outdoor lighting plan and details, and a landscaping plan

17. Affordable Restriction In Perpetuity

Under the SJC's decision in Zoning Board of Appeals of Wellesley, et al. v. Ardmore Apartments Limited Partnership, 436 Mass. 811, 767 N.E.2d 584 (2002), the Board of Appeals should impose a condition requiring that the affordable units are maintained as affordable either in perpetuity or for as long as the housing development is not in compliance with Acton's local zoning requirements, regardless of the terms of any subsidy agreements attendant to the project.

cc: Planning Board
Town Manager
Commission on Disability
ACHC

Water Supply District of Acton

693 MASSACHUSETTS AVENUE
P.O. BOX 953
ACTON, MASSACHUSETTS 01720-0953

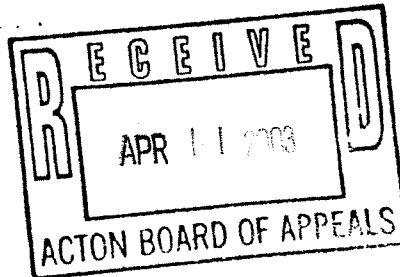
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JAMES L. DEMING
DISTRICT MANAGER

April 10, 2003

Board of Appeals
Town of Acton
472 Main Street
Acton, MA 01720

TELEPHONE (978) 263-9107
FAX (978) 264-0148



Re: Comprehensive Permit/Franklin Place

Dear Members of the Board:

I have reviewed the plans for the proposed "Franklin Place" development and would offer the following comment.

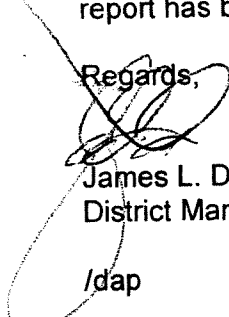
While I could find no written estimate of daily demand projections for public water supply, it is apparent that the proposed 32 units will draw in excess of 2500 GPD.

On April 8, 2002, the Board of Water Commissioners amended our Rules and Regulations to include a requirement for a "Water Impact Report" when the estimated design demand of the facility exceeds 2500 GPD.

I have attached a copy of the Amended Rules and Regulations, and some possible conservation measures to consider.

The AWD will not provide public water to the proposed development until this report has been completed, and accepted.

Regards,


James L. Deming
District Manager

/dap

cc: Jane Ceraso
Franklin Place LLC
c/o Northwest Development
178 Great Road
Acton, MA 01720

attachment: Rules and Regulation

**Updated Regulation (AWD Rules and Regs # 28.)
as of 4/08/02 Water Commissioners' Meeting**

Any person applying for water use having a design demand in excess of 2,500 gallons per day or a larger (over 2 inch) service line, will provide to the District a *Water Impact Report* acceptable to the District. This report will contain the following: 1) estimated impact of the project on the District's water demand; 2) impact of the project on the District's existing supply system, including maintenance of adequate fire flow; 3) impact of the project on the District's Water Management Act withdrawal permit compliance, and 4) conditions and water conservation measures that will mitigate the effect of the project's impact (applicants should request from the District a list of possible mitigation measures)

The report will be reviewed and approved by the Water Commissioners. Costs associated with generating the report will be the responsibility of the applicant. A copy of this report will go to the Planning Department and Building Inspector.

Acton Water District Water Impact Report

**Possible water conservation techniques for new developments/upgraded services
that fall under Water Impact Report regulation.**

Outdoor Conservation	Est. water savings/yr/ avg. 4 person household
Natural Lawn and landscape (no supplemental irrigation)	81,600 gallons*
Drip irrigation only	Depends
Maximum total irrigated area of 4,000 sq. ft. (approx. 1/10 acre)	48,960 gallons*
Fix all outdoor leaks (does not apply to new developments)	Depends
Use pool cover	400 gallons
Indoor Conservation	
Replace all old toilets with ultra-low flow toilets (1.6 gpf) (does not apply to new developments)	Depends
Horizontal axis washing machines	7,300 gallons
Low flow aerators (1.2 gpm) on all faucets	5,200
All showerheads flow-restricted (2.5 gpm)	4,000 gallons
Fix all leaks (does not apply to new developments)	Depends

* assumed baseline: ¼ acre irrigated 1 inch/week for 3 months



TOWN OF ACTON
472 Main Street
Acton, Massachusetts, 01720
Telephone (978) 264-9608
Fax (978) 264-9630

Nancy McShea
Recreation Director

Date: April 30, 2003
To: Don Johnson, Town Manager
From: Acton Recreation Commission
Re: Site Plan Special Permit 520 Main Street
Cc: Garry Rhodes

The Acton Recreation Commission has raised concerns over the lack of recreation opportunities for the new residents of 520 Main Street. The Commission feels that they new residents of this complex, being within walking distance of the Memorial Library and playground, would likely use this playground for their children. With this in mind the Recreation Commission feels that it would be prudent for the applicant to contribute towards updating this playground in lieu of providing a playground on site for the children in this complex. The Recreation Commission would be happy to discuss this further with the applicant if need be.

Approved by the Recreation Commission April 29, 2003.

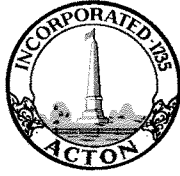
ACTON MUNICIPAL PROPERTIES DEPARTMENT

INTERDEPARTMENTAL COMMUNICATION

To: Don P. Johnson, Town Manager **Date:** 4/15/03
From: Dean A. Charter, Municipal Properties Director (15)
Subject: Franklin Place, 520 Main Street

I have reviewed the plans submitted and am familiar with the site of the above noted Comprehensive Permit. My comments are as follows:

1. If the development requires the removal of any Public Shade Trees as defined in MGL Chap. 87, there will need to be a tree removal hearing, and replacement trees provided.
2. There was no landscape plan provided, so I was unable to conduct my usual review. If and when such a plan is submitted, I will review and comment on it.



INTERDEPARTMENTAL COMMUNICATION

Acton Board of Health - Telephone 978-264-9634 - Fax 978-264-9630

May 1, 2003

TO: Don Johnson, Town Manager

FROM: Doug Halley, Health Director

SUBJECT: Comprehensive Permit 520 Main Street

Attached please find a copy of an email sent to the Board of Health members regarding a draft memo to the Board of Appeals on the Comprehensive Permit Hearing for 520 Main Street. Also attached is the Chairman Bill McNinn's initial comments. The Board of Health has placed this issue as an agenda item on their May 5, 2003 meeting and intends to act on the draft memo at that time.

Doug Halley

From: Doug Halley
Sent: Tuesday, April 29, 2003 3:48 PM
To: Robert Oliveri (robert_n_oliveri@res.raytheon.com); Bill McInnis (mcinniw@raytheon.com); Terry Gilmore; Mark Conoby; Roxanne Hunt
Cc: Brent Reagor
Subject: Comprehensive Permit 520 Main Street

Attached please find a draft memo to the Board of Appeals regarding the proposed Comprehensive Permit for 520 Main Street. I have placed this on the agenda for Monday's meeting and would appreciate any feedback from the Board.

5/1/2003



INTERDEPARTMENTAL COMMUNICATION

Acton Board of Health - Telephone 978-264-9634 - Fax 978-264-9630

April 29, 2003

TO: Board of Appeals

FROM: Doug Halley, Health Director

SUBJECT: Comprehensive Permit 520 Main Street

Under 760 CMR 31.07(3)(2), "[a]dequacy of sewage arrangements" is a legitimate topic for inquiry under a comprehensive permit application, and "the need to protect the health or safety of the occupants of proposed housing or of the residents of the city or town, [and] to protect the natural environment," are important and legitimate areas of local concern under 760 CMR 30.02. With this as background, the Health Department has reviewed the proposed Comprehensive Permit for 520 Main Street with Bill McInnis, Board of Health Chairman.

The Chairman notes that the Board of Health's standing policy is not to recommend waivers from the Board's Health Regulations without a hearing to assess the manifest injustice of the regulation in question and how the same degree of environmental protection that the regulations require can be provided. The Board's regulations have been developed, amended and applied over the years based on the specific problems encountered within Acton. In particular, as wastewater problems have manifested themselves the Board has amended its regulations accordingly or has recommended that the Town invest millions of dollars in a sewer system to take care of problems in South Acton that could not be addressed by regulations.

The proposed Comprehensive Permit at 520 Main Street in particular is seeking relief from three critical elements of the Board's regulations. The Board has adopted more restrictive regulations than the State for these critical elements due to observed environmental impacts from developments similar to this proposed development in Acton. The three critical elements that the Board of Health requests that the Board of Appeals consider prior to approving this development are as follows:

1. Article 11-7.3
No Sewage Disposal System with a capacity of 2,000 gallons per day or over shall be constructed within one hundred (100) feet of any wetland.

2. Article 11-9.1

Leaching facilities for any use shall be constructed to meet the requirements given in Table 2.

3. Article 11-9.7

The minimum distance between sidewalls of leaching trenches must be twelve (12) feet when the area between trenches is used for a reserve area.

The Board of Health respectfully requests that the Board of Appeals condition approval of the application on compliance with these three provisions need to protect the health or safety of the occupants of proposed housing or of the residents of the city or town, and to protect the natural environment.

For the past 15 years the Board of Health has been conducting water quality tests at 40 locations within the Town's brooks and streams. These bacteria tests have shown that the standards established by the State for swimming waters are exceeded 25% to 30% of the time. The Board believes, that as septic systems age they contribute to the overall quantity of bacteria levels. This concern is increased as septic systems are located closer to a wetland or stream.

As a response to these historical findings, the Board of Health has adopted regulations that have increased the separation between wetlands and septic systems. In particular, the Board has established a setback of 100' for septic systems with design criteria of over 2,000 gallons per day.

The proposed septic system for this proposal is designed to discharge 7,040 gallons per day. The wetlands adjacent to this property discharge into Conant Brook. The Board of Health samples this Brook at its intersection with Main Street, directly downstream from this proposal. During low flow conditions Conant Brook has averaged 235 Coliform Fecal Units for the past ten years. It is the Board's consistent goal to bring all of the Town's Brooks and streams within the swimming water standards of 200 Coliform Fecal Units at all times. The Board believes that minimum setbacks to wetlands are an important component in maintaining appropriate water quality levels in all brooks and streams.

The Board has also adopted a policy intended to further protect the brooks and streams and to provide additional treatment to a septic system's subsurface discharge. This policy allows a septic system to approach the Title 5 setback standard if treatment is provided which ensures that the discharge will not exceed 10 ml of nitrates. The Board's policy is intended to promote treatment for small systems and to improve groundwater quality recognizing that the quality of groundwater directly impacts the quality of water in wetlands, brooks and streams.

It should be noted that the Town has already experienced water quality issues symptomatic of nutrient degradation within the watershed of this proposed development. In the past ten years the Town was forced to dredge and restore the Concord Ice House pond due to severe eutrophication of that resource. The Board of Health's water testing data suggests that non-point discharges from septic and drainage systems were likely to be the primary cause of those conditions.

Should the Board of Appeals decide it is necessary to waive the Board of Health regulations the Board of Health requests that the waiver be conditioned on compliance with the Board of Health's current treatment policy.

In relationship to this issue the Board of Health notes that the proposed on-site septic system is sized for a sewage flow of 7,040 gallons per day (gpd) for 64 bedrooms based on the 110 gpd per bedroom standard in Title V. If the 14 lofts proposed for each unit were used as bedrooms, this could add an additional 1540 gpd of wastewater flow bringing the total to 8,580 gpd. The system as proposed would therefore be undersized per the requirements of Title V. In addition, either volume would result in a significant nitrate concentration plume into the adjacent wetland and toward the nearby Conant Brook, which feeds the Acton Water District's Conant wellfield, $\frac{3}{4}$ mile downstream. Accordingly the Board of Health recommends that the ZBA impose conditions (a) to design the system in accordance with Title V at a total flow of 8,580 gpd or by having the applicant grant to the Board of Health a deed restricting the number of bedrooms to the smaller number, and (b) to require that the Sewage Disposal System be constructed beyond the 100' buffer zone for any wetland or in conformance with the Board's existing policies on nitrate removal.

The other two elements that are critical to the Board are difficult to assess at this time because additional soil testing must be conducted. Under the authority of 310 CMR 15.102(2) and 310 CMR 15.102(4), the approving authority (Acton Board of Health) has determined that four additional deep test holes and one additional percolation test are required in the proposed area for on-site sewage disposal. This additional testing may impact the proposed design of the septic system and therefore require the Board to assess the requested waivers accordingly. Based on this information the Board of Health would appreciate an opportunity to address these elements once a full design of the septic system has been developed. At that time the Board would be able to provide comments on the waivers of those two requirements.

It should also be noted that within the "Petition for Comprehensive Permit", submitted by the applicant, the on-site sewage disposal system is referred to numerous times as a "shared system". This terminology is incorrect and misleading. Under 310 CMR 15.002, a "shared system" is defined as:

"A system sited and designed in accordance with 310 CMR 15.100 through 15.293 which serves, or is proposed to serve, more than one facility or more than one dwelling on a single facility and which has been approved in accordance with 310 CMR 15.290 through 15.293. A system serving a condominium unit or units located on the same facility is not a shared system."

It is the Board of Health's understanding that the proposed development will be set up as a condominium and therefore the on-site sewage disposal system should be appropriately described in the petition so as to be compliant with the language and requirements of 310 CMR 15.000 (Title V).

In addition the Board of Health notes that no provisions for domestic solid waste disposal are shown on the plans submitted. A part of its ongoing public hearing process on the Comprehensive Permit Application, the ZBA should require the applicant to identify these provisions before the ZBA makes any decision with respect to the application.

CC: Don Johnson, Town Manager
 Brent Reagor, Sanitarian

Doug Halley

From: William H McInnis [William_H_McInnis@raytheon.com]
Sent: Tuesday, April 29, 2003 4:20 PM
To: Doug Halley
Cc: Brent Reagor; Mark Conoby; mcinniw@raytheon.com; robert_n_oliveri@res.raytheon.com; Roxanne Hunt; Terry Gilmore
Subject: Re: Comprehensive Permit 520 Main Street

HI Doug,

Looks very good to me. One minor typo; search for "lofts", it should be "lots". Otherwise I'm impressed, very thorough and well written.

Regards,

Bill

MEMORANDUM

TO: BOARD OF APPEALS
FROM: NANCY TAVERNIER (978) 263-9611
SUBJECT: COMMENTS ON FRANKLIN PLACE
DATE: 5/1/2003

I am submitting the following comments for the May 8 Public Hearing on the proposed Franklin Place development. I support the proposed development at 520 Main St.

I am pleased that the town has awakened to affordable housing issues and that board members and other residents are attempting to understand the complexity of these issues. Acton has not had much experience with comprehensive permits. In the past 5 years, we have only had 2 projects proposed and approved unlike many of our neighboring towns. Those 2 projects have generated a total of 7 home-ownership opportunities for moderate-income families. This project will give us 8 units.

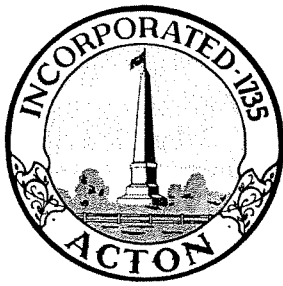
GENERAL COMMENTS ON AFFORDABLE HOUSING

- Acton has 2.07% of its 7645 total housing units officially designated as affordable. Fortunately, we are able to count the 142 subsidized rental units controlled by the Acton Housing Authority as part of our total of 158 units. Only 16 units are home ownership units. These units are under ACHC oversight. If we were to calculate these housing units only, our percentage would be an embarrassing 0.002%. This is not a very impressive record and certainly not one to put forth before a state agency as an example of progress.
- It appears that ACHC has been successful in creating a perception of affordable housing successes and we are pleased that our education efforts have reduced the level of fear in Acton about affordable housing. However, the actual numbers belie that perception. The reality is the only way Acton is going to add more affordable housing units is through the use of comprehensive permits and CPA funded projects. The major hurdle to this production is very simply the price of land. The high cost of land gives the incentive to developers to construct the highest density possible to gain the highest profit margin.

- The Planning Department will soon commence a Community Development Plan that will focus on affordable housing needs. This will be a very helpful and long overdue study but it is unlikely that it will discover anything new and creative about providing affordable housing units in the numbers that are required. Chapter 40B is most likely the only way we will gain more affordable housing in Acton.
- The Franklin Place petition includes an interesting statistic in Section 7, "Housing Characteristics..." It cites the US 2000 Census showing there are 1,793 renter households in Acton and uses the income of those families to conclude that 30% of those renter households would be eligible for low and moderate income housing. That's 397 Acton families currently in rental properties that could potentially have an interest in affordable housing opportunities such as Franklin Place. That does not even account for adult children living with parents or people who work for and in the Town of Acton. There is a significant demand for affordable housing in Acton and throughout the Commonwealth.
- Of particular interest to the Town should be the issue of the annual DHCD Housing Certification required under Executive Order 418. Acton has submitted two of these to date, 2001 and 2002, and has received certification from the state for the first and is awaiting the second. Certification gives the town eligibility for certain state grant programs such as the Housing Needs study, MHP technical support for the Towne School project, certain housing funding sources for the Towne School project, transportation improvement funds for the Town, and environmental grants such as sewer funds, to name just a few. The object of the certification process is to keep the community moving forward toward the goal of 10% affordable housing units. A disapproval by the Town of an affordable housing proposal such as Franklin Place could have a chilling impact on the next certification round to be submitted in July. It might stop dead our efforts to develop the Towne Building.
- The affordable units in Franklin Place will be purchased for an average of \$145,000 by families with an income range of \$38,000 to \$64,000 depending on family size, percentage of down payment, etc. The use of the Soft Second Loan program could reduce the cost even more. This provides a window of opportunity for Town and School employees, as well as other families who dream of home ownership. My Towne School Presentation at the 2002 Town Meeting quoted the statistic that 83% of the Town and School employees would be income eligible for affordable housing in Acton. This income range matches the income of the vast majority of our employees. Because this development is a new program through Mass. Housing, priority does not have to be given to the largest families in the lottery pool. Instead many of our single employees and young professionals will have an opportunity to own their own home.

COMMENTS SPECIFIC TO FRANKLIN PLACE

- This proposed development is located in an Affordable Housing Overlay District voted by a Special Town Meeting in 1990 as part of the Master Plan zoning changes. Under the zoning requirements for this district, there would be a 25% density bonus for the number of single family homes allowed. The consultant believes that 7 houses could be built on this parcel of 4.9 acres, a 25% bonus would allow as many as 8-9 houses on this site. I personally do not think that would be a very attractive option. The density of units on this site is a result of the units being attached multi-family dwellings, a far different density scenario than single family homes.
- This is a good location for a housing development, in my opinion, due to its proximity to the amenities in Acton Center, the use of the Main St. sidewalk, the transition from commercial properties to residential ones and the eventual pedestrian access to Great Rd.
- These units are 2 bedroom units and are not likely to attract many families with children, certainly not more than 2 children. The market units will not only attract single professionals, young couples starting out, but also empty nesters who may feel they are being pushed out of town but would stay if there were a lower cost option. The market units will sell for an average of \$310,000 making them attractive for Acton homeowners selling their homes in the \$400+'s and buying one of these. In effect, they will get the same community services for a tax reduction of 25%.
- The units are attractively designed and feature a desirable one floor living layout which offers handicapped individuals housing opportunities which are currently in short supply.
- Lastly, the developers' willingness to use advanced treatment for the effluent in the septic system is a major plus. I hope the Town will continue to strongly urge developers to use such treatment and even go further by encouraging the tying-in of abutting neighborhoods.



5

TOWN OF ACTON

P.O. Box 681

Acton, Massachusetts, 01720

Telephone (978) 263-4776

Fax (978) 266-1408

Acton Community Housing Corporation

Nancy E. Tavernier, Chair

To: Board of Appeals

Date: April 24, 2003

From: Nancy Tavernier, Chair
Acton Community Housing Corporation

Cc: Board of Selectmen, Town Manager

Subject: **Franklin Place**
520 Main Street
Application No. 03-08

The Acton Community Housing Corporation supports the Franklin Place Project for 32 units at 520 Main St., which includes 8 affordable housing units for purchase by income eligible first time homebuyers.

Last fall, Mark O'Hagan met with the ACHC to discuss an earlier proposal of 40 units. The new proposal was presented to ACHC for review with a subsequent vote on April 24, 2003 to support in principle the overall concept of the current proposal. Consistent with those discussions, we request:

- One of the eight affordable units be a loft unit.
- No more than one of the units be a walkout (basement) unit.
- One of the eight affordable units should be handicapped adaptable in the event one of the lottery winners requires such adaptability. This unit should not be restricted to handicapped ownership however.
- Five of the units meet the Local Preference guidelines of ACHC.
- These housing units will serve households whose income is at or below 70% of the median household income for the Boston Area. The 2003 Area Median Income is \$80,800. We suggest using the guidelines for 3-person households.
- All eight units must meet the DHCD requirements to allow them to be counted toward the community's required 10% affordable housing units for the purposes of Chapter 40B.
- Deeds for the units must contain use restrictions that ensure the units may only be resold to income-qualified buyers at affordable prices for a lock-in period of time of 99 years.

- The units must be sold on a fair and open basis based on an affirmative fair marketing plan.
- The developer will provide funding for a consultant to administer the marketing and homeowner selection program, including a lottery. The members of ACHC will oversee this process to insure fairness.
- All homeowners of the development will be informed in advance, as part of the marketing program, about the affordable units present in the development. They will also be informed in writing that any condominium fees will be prorated based on a ratio of the selling price of the market rate homes to the affordable homes which will result in lower fees paid by the affordable owners. This information will be included in the purchase and sale documents.

Members of the ACHC will be present at the Public Hearing for this development and may have other comments at that time.

Extra Info BOS
cc: Steve anderson



TOWN OF ACTON
472 Main Street
Acton, Massachusetts, 01720
Telephone (978) 264-9628
Fax (978) 264-9630

Engineering Department

INTERDEPARTMENTAL COMMUNICATION

To: Don P. Johnson, Town Manager

Date: April 25, 2003

From: Engineering Department

Subject: Comprehensive Permit (#03-08) 520 Main Street

We have the following comments regarding the above mentioned plan dated April 3, 2003:

1. The engineer should show the existing stone bound along the site frontage that marks the 1927 county layout for Route 27 (Main Street). We have enclosed a copy of the sidewalk plan and a portion of the 1927 county layout that shows the location of this bound.
2. There is an existing utility pole on this property that is adjacent to the gravel driveway that should be labeled on the plans to be removed after the overhead wires are disconnected to the existing building.
3. The engineer should provide two temporary benchmarks on the site and clearly label them on the plans. There should also be a note describing the location and elevation of the starting benchmark referenced to the National Geodetic Vertical Datum of 1929.
4. The existing driveway opening should be closed by installing an asphalt berm and reconstructing the sidewalk. Attached is a copy of the Main Street sidewalk construction plan that shows a six-inch diameter drainage pipe underneath the existing driveway and a swale behind the sidewalk. The engineer should add a note to the plan requiring the driveway to be removed and a swale to be constructed to allow the flow of the overland runoff. The engineer will need to add a cross culvert or an inlet to the drainage system in order to prevent a puddle on the up-gradient side of the new paved access.
5. The engineer should label the proposed handicap sidewalk ramps on either side of the new paved driveway.
6. The engineer should show the location of the mailboxes for the development on the plans. The mailboxes should be located on-site such as at the common building to prevent residents who stop their vehicles to get their mail from interfering with the flow of traffic on

Main Street.

7. The engineer needs to assign street addresses for the units on the site. We are concerned about the potential confusion with the building addresses and the individual unit numbers, especially during a 911 emergency. The entire condominium should use 520 Main Street as their street address and each individual condo should be assigned a unit number. The applicant will need to obtain final approval for the street addresses from the Engineering, Police and Fire Departments.
8. We recommend that construction vehicles be prohibited from parking on Main Street to prevent problems with traffic.
9. It is our opinion that parking is very limited on site and residents and guests will possibly park their vehicles along Main Street and/or on the existing sidewalk causing problems for commuters and pedestrians. There is a prohibition on parking on a sidewalk in the current Acton Traffic Rules and Orders. In the future the Board of Selectmen may need to also vote a parking restriction for this section of Main Street if a problem develops after the units are occupied. Either restriction will require police enforcement on a regular basis.
10. The Fire Chief should review the plans to ensure there is sufficient access for a fire truck. Based on our turning templates, a fire truck cannot enter the site and turn right at the intersection closest to Main Street without driving over the curb. The engineer should modify the pavement radius at this intersection to accommodate the fire truck.
11. The engineer should label the sight distance along Main Street on the plans for vehicles exiting the site from the new driveway. Based on a vehicle speed study that was conducted by the Town for the Main Street Corridor Study in August of 2000, the 85th percentile speed for vehicles traveling this section of Main Street is 43 miles per hour. The sight distance as shown in the table from the American Association of State Highway and Transportation Officials (AASHTO) for vehicle speeds ranging from 40 to 45 mph is 325-400 feet (Attached herewith).
12. The engineer should add a note to the plans to indicate that the site is located within Groundwater Protection District Zone 4.
13. The engineer has shown a proposed catch basin on Main Street to replace the existing paved swale that will be eliminated as a result of constructing the new driveway. The catch basin is shown discharging into the detention basin for the private drainage system on site. We are concerned with the Town being jointly responsible for the future maintenance of the detention basin. We believe that the outlet pipe from the catch basin in Main Street should be separate from the private on-site drainage system. The Town will also need a drainage easement for this outlet pipe that grants the Town the right to enter upon the property for future maintenance.
14. The engineer should label the inverts of the pipe outlets in the detention basin. The invert of the 12" ADS pipe outlet from the detention basin outlet structure should also be labeled on the plan.

15. The engineer should revise the detail for the detention basin outlet structure on sheet 4 of 4 so that the diameter and invert of the outlet pipe and the elevations for the finish grade and the V-notch weir are consistent with the plans.
16. The detail for the sloped granite curb shows the maximum horizontal and vertical reveals of curb to be 6-inches and 4-inches, respectively. This would allow the curb to be set at an angle that is less than 45-degrees. The Town typically requires the sloped granite curb to be set at a 60-degree angle with a 6-inch vertical reveal.
17. The engineer should label the siltation barrier as the limit of clearing on the site plans.
18. If the applicant intends to have a sign identifying the condominium, the engineer should show the location of this sign on the plans.
19. We recommend that an as-built plan showing the buildings, pavement, drainage and utilities be required at the conclusion of construction to show that the project was constructed according to the approved plans.

Cc: Garry Rhodes, Building Commissioner

Design Speed (mph)	Assumed Speed for Condition (mph)	Brake Reaction		Coefficient of Friction f	Braking Distance on Level ^a (ft)	Stopping Sight Distance	
		Time (sec)	Distance (ft)			Computed ^a (ft)	Rounded for Design (ft)
20	20-20	2.5	73.3- 73.3	0.40	33.3- 33.3	106.7-106.7	125-125
25	24-25	2.5	88.0- 91.7	0.38	50.5- 54.8	138.5-146.5	150-150
30	28-30	2.5	102.7-110.0	0.35	74.7- 85.7	177.3-195.7	200-200
35	32-35	2.5	117.3-128.3	0.34	100.4-120.1	217.7-248.4	225-250
40	36-40	2.5	132.0-146.7	0.32	135.0-166.7	267.0-313.3	275-325
45	40-45	2.5	146.7-165.0	0.31	172.0-217.7	318.7-382.7	325-400
50	44-50	2.5	161.3-183.3	0.30	215.1-277.8	376.4-461.1	400-475
55	48-55	2.5	176.0-201.7	0.30	256.0-336.1	432.0-537.8	450-550
60	52-60	2.5	190.7-220.0	0.29	310.8-413.8	501.5-633.8	525-650
65	55-65	2.5	201.7-238.3	0.29	347.7-485.6	549.4-724.0	550-725
70	58-70	2.5	212.7-256.7	0.28	400.5-583.3	613.1-840.0	625-850

^aDifferent values for the same speed result from using unequal coefficients of friction.

Table III-1. Stopping sight distance (wet pavements).

d =
where: d =
V =
f =

In this form or a single change. Mean decreases as of many physical factors, tire tread, pavement surface. The braking distance of a vehicle. The test from the constant friction coefficient calculated on which speed.

Figure III-1. Factors influencing stopping sight distance. Curves 9 and 10 show measurements for wet and dry conditions of friction with standard stopping sight distances for several curves. The dry condition curves 9 and 10 show distances measured in tests that in average of 100 miles (at low speeds) what better.

Because compared with distances for criteria shown.

trucks and passenger cars, therefore, are not used in highway design standards.

There is one situation that should be treated with caution, in which every effort should be made to provide stopping sight distances greater than the minimum design value. When horizontal sight restrictions occur on downgrades, particularly at the ends of long downgrades, the greater height of eye of the truck operator is of little value, even when the horizontal sight obstruction is a cut slope, and even when (on long downgrades) truck speeds may closely approach or exceed those of passenger cars. Although the average truck operator tends to be more experienced than the average passenger car operator and quicker to recognize hazards, it is best under such conditions to supply a stopping sight distance that meets or exceeds the values in Table III-1.

Increase for Downgrades				Decrease for Upgrades			
Design Speed (mph)	Correction in Stopping Distance (ft)			Assumed Speed for Condition (mph)	Correction in Stopping Distance (ft)		
	3%	6%	9%		3%	6%	9%
30	10	20	30	28	—	10	20
40	20	40	70	36	10	20	30
50	30	70	—	44	20	30	—
60	50	110	—	52	30	50	—
65	60	130	—	55	30	60	—
70	70	160	—	58	40	70	—

Table III-2. Effect of grade on stopping sight distance—wet conditions.

Decision Sight Distance

Stopping sight distances are usually sufficient to allow reasonably competent and alert drivers to come to a hurried stop under ordinary circumstances. However, these distances are often inadequate when drivers must make complex or instantaneous decisions, when information is difficult to perceive, or when unexpected or unusual maneuvers are required. Limiting sight distances to those provided for stopping

may also provide for error in actions (9). kinds of error decision situations where unusual cross section treated demonstrated sources of traffic, traffic

Decision an unexpected hazard in recognize the path, safely and others additional maneuver to just stop, distance.

Drivers need for error in actions (9). kinds of error decision situations where unusual cross section treated demonstrated sources of traffic, traffic

The decision used by design and (2) serve at these locations ability these distances be relocated to able. If it is horizontal or vertical attention should be for providing encountered

NOV 23 1976

TOWN OF ACTON
SPECIAL SPEED REGULATION NO. 25-A

Highway Location: ACTON

Authority In Control: TOWN OF ACTON

Name of Highway: ROUTE 27, CENTRAL ST., PIPER RD. TAYLOR RD.
HOSMER ST., ROUTE 62, PROSPECT ST.,
WILLOW ST., WETHERBEE, SUMMER, ARLINGTON,
HIGH STS., CONCORD RD., MARTIN ST.,
NEWTOWN, NAGOG HILL RDS., LIBERTY, STOW,
MAPLE, SCHOOL STS., LAWS BROOK RD.,
MASSACHUSETTS AVENUE (ROUTE 111).

In accordance with the provisions of Chapter 90, Section 18, of the General Laws (Ter. Ed.) as amended, the following Special Speed Regulation is

hereby Adopted
by the Board of Selectmen
of the Town of Acton

Special Speed Regulation number 25 dated December 26, 1950 is hereby amended by striking out the regulation in its entirety and inserting in place thereof the following revision and addenda.

That the following speed limits are established at which motor vehicles may be operated in the areas described.

ROUTE 27-NORTHBOUND

Beginning at the Maynard Town Line
Thence northerly on Route 27

0.38 miles	at	40 miles per hour
0.44 "	"	35 " "
0.27 "	"	25 " "
0.76 "	"	35 " "
0.45 "	"	30 " "
0.91 "	"	35 " "
0.29 "	"	30 " "
0.34 "	"	35 " "
0.70 "	"	40 " "
0.20 "	"	30 " "
0.50 "	"	40 " "
0.56 "	"	35 " "
1.25 "	"	40 " "

ending at the
Carlisle Town Line; the total distance being 7.05 miles.

NO. 25-A

-2-

ROUTE 27-SOUTHBOUND

Beginning at the Carlisle Town Line
Thence southerly on Route 27

1.25 miles at 40 miles per hour

0.56 " " 35 " " "

0.50 " " 40 " " "

0.20 " " 30 " " "

0.70 " " 40 " " "

0.34 " " 35 " " "

0.29 " " 30 " " "

0.91 " " 35 " " "

0.45 " " 30 " " "

0.76 " " 35 " " "

0.27 " " 25 " " "

0.44 " " 35 " " "

0.38 " " 40 " " "

ending at the

Maynard Town Line; the total distance being 7.05 miles.

CENTRAL STREET-NORTHBOUND

Beginning 100 feet north of Route 27
Thence northerly on Central Street

0.15 miles at 25 miles per hour

0.27 " " 30 " " "

0.46 " " 25 " " "

1.13 " " 30 " " "

0.28 " " 25 " " "

0.28 " " 30 " " "

0.25 " " 35 " " "

0.28 " " 40 " " "

ending at the

Boxboro Town Line; the total distance being 3.10 miles.

CENTRAL STREET-SOUTHBOUND

Beginning at the Boxboro Town Line
Thence southerly on Central Street

0.28 miles at 40 miles per hour

0.25 " " 35 " " "

0.28 " " 30 " " "

0.28 " " 25 " " "

1.13 " " 30 " " "

0.46 " " 25 " " "

0.27 " " 30 " " "

0.15 " " 25 " " "

ending at Route 27;

the total distance being 3.10 miles.

Table 3
Weekday Observed Traffic Speeds - Route 27 (miles per hour)¹

Travel Direction	Posted Speed Limit	Median Speed	85% Speed	Maximum Speed ²
Route 27 – at Newtown/Concord Road				
Northbound	30	36	40	55+
Southbound	30	37	43	55+
Route 27 - at Hayward Road				
Northbound	35	31	37	55+
Southbound	35	33	38	55+
Route 27 - south of Brook Street				
Northbound	40	38	43	55+
Southbound	40	37	42	55+

¹ Speeds based on approximately 10,000 random observations per travel direction, along Route 27 on August 1 and 8, 2000.

² The tubes become inaccurate in the reading at the higher end of the speed measurements.

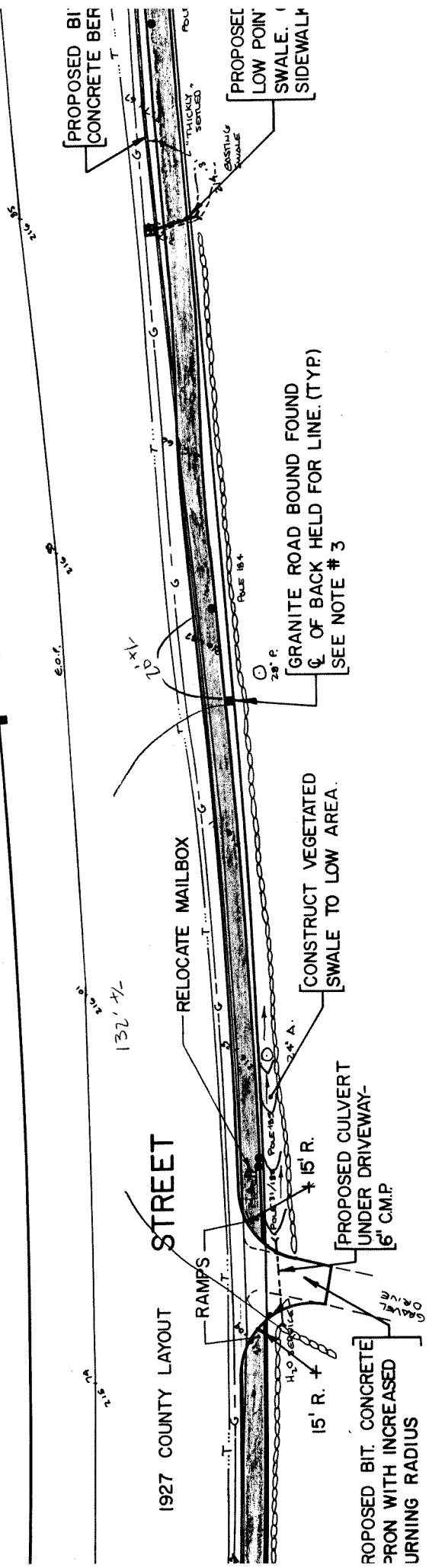
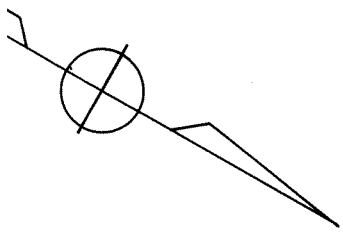
Table 4
Saturday Observed Traffic Speeds - Route 27 (miles per hour)¹

Travel Direction	Posted Speed Limit	Median Speed	85% Speed	Maximum Speed ²
Route 27 – North of Taylor Road				
Northbound	35	36	41	55+
Southbound	35	37	42	55+
Route 27 - between Nagog Hill and PO Square				
Northbound	35	39	43	55+
Southbound	35	40	43	55+

¹ Speeds based on approximately 10,000 random observations per travel direction, along Route 27 on August 12, 2000.

² The tubes become inaccurate in the reading at the higher end of the speed measurements.

As presented in the above tables, the observed median speeds along the corridor differ slightly from the posted speed limits and are generally higher than the posted speed limit. The observed 85th-percentile speeds are fairly consistent with the posted speed limit, except in the section of Route 27 near Newtown and Concord Roads, where observed 85th percentile speeds exceed the posted speed limit by 10 to 15 mph. Maximum travel speeds of over 55 mph were also observed throughout the corridor.



1"=20'

5165



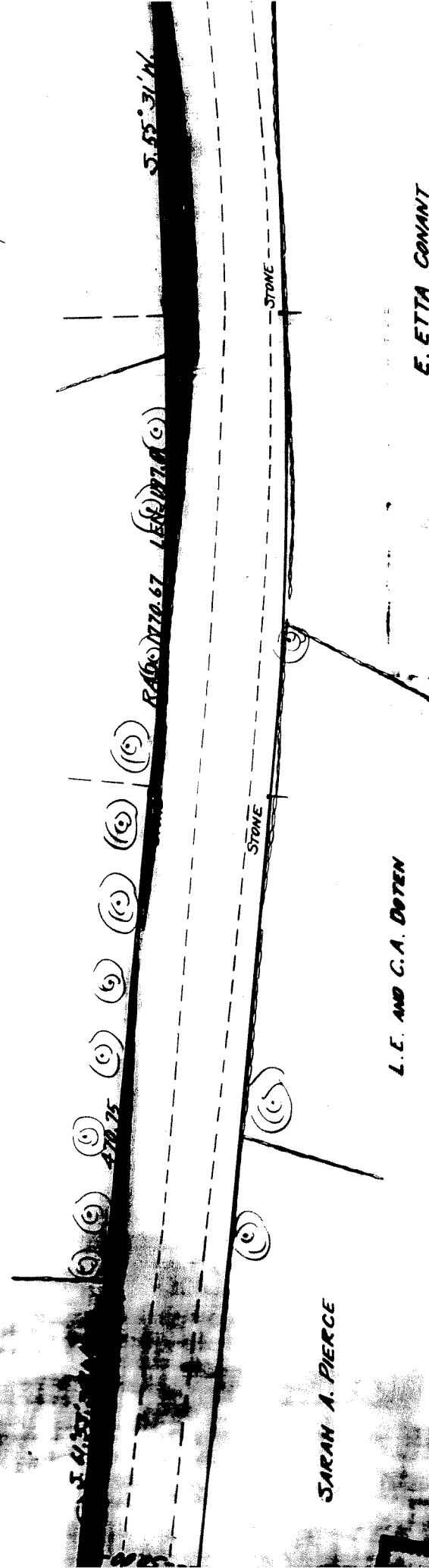
House # 520

FRANKLIN & HELEN E. BALDUF
BOOK 7605, PAGE 45-46

1927 Main St
county layout
ENG. PLAN #5063
1" = 40'

J. WILLIAM LIVERMORE
AREA TAKEN ABT. 2000. 50. FT.

JARAH A. PIERCE



JARAH A. PIERCE

L.E. AND C.A. DOTEN

E. ETNA CONANT